

## ABSTRACT OF THE DISCLOSURE

A regulating heat exchange and cooling method and system for monitoring and controlling the temperatures of walls subjected to high temperatures. The system is used to cool the inner wall of a thermal system having a double wall, the inner wall being subjected to temperatures equal to or greater than the physical capacity thereof. The system includes a network of tubes which is independent of the thermal system to be cooled. The tubes contain pressurized cooling water which circulates therethrough. The tubes have nozzles which spray and project water in the form of solid cones against the inner wall, the nozzles being controlled by adjustable-flow valves. The network of tubes forms an integral part of the outer wall of the thermal system to be cooled and the system also includes elements for maintaining the water projection area defined by the inner and outer walls in a vacuum condition.